In the Claims:

Please cancel claims 1-8 without prejudice.

Please add the following claims.

9. A semiconductor device, comprising:

a semiconductor substrate having a predetermined concentration, Ns, of a dopant of a first conductivity type;

a source region and a drain region doped with a dopant of a second conductivity type;

junctions, wherein the junctions delimit a channel region of a predetermined length, L_N, in the substrate, wherein the junctions are defined by the source region and the drain region;

first pockets located adjacent to each of the junctions, wherein the pockets have a predetermined length, Lp, wherein the first pockets are doped with a dopant of the first conductivity type with a dopant concentration, Np, which locally increases a net concentration in the substrate above Ns;

second pockets located adjacent to each of the junctions and stacked against each of the first pockets, wherein the second pockets have a length, Ln, such that Ln is greater than Lp, and wherein the second pockets are doped with a dopant of the second conductivity type with a dopant concentration, Nn, such that Nn is less than Np, which locally decreases a net concentration without changing a conductivity type, and wherein Nn is less than Ns; and

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wherein an overall length of the first pockets and the second pockets is less than the length, L_N, of the channel region.

10. The semiconductor device of claim 9, wherein the second pockets comprise a plurality of elementary pockets stacked against each other.

11. The semiconductor device of claim 9, wherein the second pockets comprise a plurality of elementary pockets stacked against each other, wherein each elementary pocket comprises a rank, i, and a predetermined length, Ln_i, wherein a predetermined concentration, Nn_i, of a dopant of the second conductivity type satisfies the relationships:

$$Ln_1 > Lp;$$
$$Ln_{i-1} < Ln_i < Ln_{i+1};$$
$$Nn_{i-1} > Nn_i > Nn_{i+1}; \text{ and}$$

wherein the sum, ΣNn_i, of the concentrations of the dopant in the elementary pockets satisfies the relationship, $\Sigma Nn_i < Ns$.

12. The semiconductor device of claim 9, wherein the second pockets comprise a plurality of elementary pockets stacked against each other, and wherein the plurality of elementary pockets comprises three elementary pockets.

13. The semiconductor device of claim 9, wherein the semiconductor device comprises an MOS transistor.

14. The semiconductor device of claim 9, wherein the first conductivity type comprises p-type conductivity.

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15. The semiconductor device of claim 9, wherein the second conductivity type comprises n-type conductivity.

16. A method for fabricating a semiconductor device, comprising:

forming a semiconductor substrate with a predetermined concentration, Ns, of a dopant of a first conductivity type;

forming a source region and a drain region by doping the source and drain regions with a dopant of a second conductivity type, wherein the second conductivity type is opposite the first conductivity type, wherein the source and drain regions form junctions that delimit a channel region between them, and wherein the channel region comprises a predetermined length, L_N;

forming first pockets adjacent to each of the junctions in the channel region, wherein the first pockets are formed by doping each of the first pockets with a predetermined concentration, Np, of a dopant of the first conductivity type, which locally increases a net concentration in the substrate above Ns, and wherein each of the first pockets comprises a predetermined length, Lp; and

implanting in the channel region a dopant of the second conductivity type under a set of conditions such that second pockets are formed in the channel region, wherein the second pockets are stacked against each of the first pockets, wherein the second pockets have a length, Ln, such that Ln is greater than Lp, wherein the second pockets have a concentration, Nn, of the dopant of the second conductivity type such that Nn is less than Np, which locally decreases a net concentration without changing a conductivity type, wherein Nn is less than Ns, and wherein the overall length of the first pockets and the second pockets is less than the nominal length, L_N, of the channel region.

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17. The method of claim 16, wherein implanting in the channel region comprises a series of successive implanting steps such that the second pockets comprise a plurality of elementary pockets.

18. The method of claim 16, wherein implanting in the channel region comprises a series of successive implantion steps such that the second pockets comprise a plurality of elementary pockets, wherein each elementary pocket comprises a rank, i, and a predetermined length, Ln_i, and wherein a predetermined concentration, Nn_i, of a dopant of the second conductivity type satisfies the relationships:

$Ln_1 > Lp$;

$Ln_{i-1} < Ln_i < Ln_{i+1}$;

$Nn_{i-1} > Nn_i > Nn_{i+1}$; and

wherein the sum, ΣNn_i, of the concentrations of the dopant in the elementary pockets satisfies the relationship, $\Sigma Nn_i < Ns$.

19. The method of claim 18, further comprising increasing an implantation angle of incidence with respect to the normal angle to the substrate with each successive implantion step and decreasing an implantation dose with each successive implantion step.

20. The method of claim 18, wherein the successive implanting steps comprise implanting the dopant of the second conductivity type using a same angle of incidence with respect to the normal angle to the substrate, a same implantation dose, and a same implantation energy in each successive implantion step, the method further comprising annealing the device in an annealing step after each successive implantion step, wherein each annealing step is different.

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21. The method of claim 16, wherein the set of conditions comprises an implantation angle of incidence with respect to the normal angle to the substrate, an implantation dose, and an implantation energy.

22. The method of claim 16, wherein the set of conditions comprises an implantation angle of incidence with respect to the normal angle to the substrate.

23. The method of claim 16, wherein the set of conditions comprises an implantation dose.

24. The method of claim 16, wherein the set of conditions comprises an implantation energy.

25. The method of claim 16, further comprising forming an MOS transistor with the semiconductor device.

26. The method of claim 16, wherein the first conductivity type comprises p-type conductivity.

27. The method of claim 16, wherein the second conductivity type comprises n-type conductivity.

28. A semiconductor device, comprising:

a semiconductor substrate having a concentration, Ns, of a dopant of a first conductivity type;

a source region and a drain region doped with a dopant of a second conductivity type;

junctions that define a channel region of a length, L_N, in the substrate, wherein the junctions are defined by the source region and the drain region;

first pockets located adjacent to each of the junctions, wherein the first pockets have a length, Lp, and wherein the first pockets are doped with a dopant of the first conductivity type with a dopant concentration, Np;

second pockets stacked against each of the first pockets, wherein the second pockets have a length, Ln, such that Ln is greater than Lp, wherein the second pockets are doped with a dopant of the second conductivity type with a dopant concentration, Nn, such that Nn is less than Np; and

wherein an overall length of the first pockets and the second pockets is less than the length, L_N, of the channel region.

In the Abstract:

Please replace the abstract with the enclosed substitute sheet. Applicant has also submitted herewith a strikethrough version of the abstract indicating the amendments.

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It is believed that no fees are due in connection with the filing of this Preliminary

Amendment. However, if any fees are due, the Assistant Commissioner is hereby authorized to

deduct said fees from Conley, Rose & Tayon Deposit Account No. 50-1505/5310-03900/EBM.

Respectfully submitted,

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Date: 12/11/01